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EMAIL MANAGEMENT IN THE GOVERNMENT SECTOR: A CASE STUDY

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Abstract

Email has become the significant tool for correspondence in all sectors, displacing and drastically changing usual letter composition. It has been acknowledged as a formal method of giving and accepting commands, agreements, decisions etc. Email is also an information communication system which captures organisations' decisions. Therefore, every organisation needs to develop and implement an email policy to manage email as records for evidence and information. In the government sector there are examples of poor email management. For instance, Michael Gove, former UK Secretary of State for Education, conducted government business using his wife's personal email account; and former US Secretary of State Hillary Clinton's use of a personal email account and server for both government and personal business. This paper discusses preliminary findings from a study of email management in the government sector. It is based on a case study at a selected government ministry in Malaysia involving interviews with twelve participants in different roles across three departments and two policies and guidelines' providers, comparing practices on the ground with the policies and guidelines. The records continuum model, which comprises the creation, capture, organisation and pluralisation of information in an organisation, was used to design the interview questions. The study aimed to critically explore the management of email in the context of the transition to digital information management (record keeping). Its context is the introduction of the 1Malaysia email project, which will provide a free email account for each Malaysian citizen over 18 years old to access e-Government services via a single sign-on user ID, as part of the move to e-government in Malaysia to accomplish its Vision 2020. This case study will contribute to the evolution of record keeping policies and practices in a former UK dependency during the transition to the digital and the identification of good practice that could be transferrable to other similar national government contexts.

Keywords: Email Management, Email Record Keeping, Information Management (Records System), Governmental practices, E-government

1. INTRODUCTION

Email is an essential tool used to communicate in all sectors, replacing and radically changing traditional letter writing. In many organisations the minute or memorandum has disappeared and been reborn through an email thread. Email has contributed to the death and loss of the file, widely used for capturing records in the analogue world, as a means of reference for telling a story. According to Nikiforova and Deborah (2013), who investigated the email manifestation of the Nigerian letter scam to defraud through unsolicited promises of untold riches, the authors of such emails used rhetorical devices to establish trust between themselves and their victims, despite evidence of increased public awareness of such scams. Their findings have wider

implications. Emails created in the public sector that contain issues regarding decision-making, administration, legal evidence or any related public service activities are considered government records and need to be captured. The National Archives and Records Administration (NARA) in the United States (2011) classify email messages as records when their content (including attachments) fulfils the definition of a record under the Federal Records Act. However, even though guidelines exist, their implementation appears to be inconsistent in any jurisdiction.

Email systems have been improved and advanced over time. The characteristics of email have developed to fulfil users' requirements. Many of the early issues with email systems, such as the limited number of characters for composing messages, small mailbox sizes, and the lack of standardized messages and headers (Partridge, 2008), have been resolved. However, the mass of incoming and outgoing email and resultant multiple threads/part threads makes it difficult to verify the audit trail (Moss, 2012). Additionally, human related issues remain. For example, Michael Gove, former UK Secretary of State for Education, conducted government business using his wife's personal email account (Vasagar, 2011); and former US Secretary of State Hillary Clinton used a personal email account and server for both government and personal business (Zurcher, 2016). According to The Briefing (2015), Hillary Clinton's email account contained a total of 62,320 sent and received emails from March 2009 to February 2013. Based on the review process, the State Department found approximately half of them related to the Department and the remaining half were private, personal records. One of the reasons given for this was the use of an email mobile device application that supports flexible working and immediate response. Even though the reason may be positive, it is against government policy. In the context of best practice it is not advisable to use personal email for business purposes. However, some contend that Clinton complied with the laws and regulations (Carroll, 2015).

In Malaysia, the government signed up to the 1Malaysia email project which will provide a free email account for each Malaysian citizen above 18 years of age to access a single secure communication channel to e-Government services, with a single sign-on user ID (The Star, 2011). This began with the establishment of Multimedia Super Corridor (MSC) in 1997 in which e-government was one of the seven flagships of the initiative (Kaur, 2006). The implementation of the Digital Document Management System (DDMS) in 2014 helps the Government of Malaysia to manage the email record keeping. This study was conducted to answer the research questions 'Why and how does the government sector in Malaysia manage and integrate email records in the overall context of recordkeeping?' and 'What tools and mechanisms are needed for the effective management of email as a record?' Currently, no study has been undertaken to investigate email management in Malaysia and none specifically in the context of electronic record keeping in the government sector.

2. PREVIOUS STUDIES

2.1. Email Transition

Email is a communication medium that has been adapted from the letter and supported by technological enhancement – a transition communication (Milne, 2010 cited Nelson, 1981). They are similar in respect of some metadata. For example, an email header contains similar metadata details (name of recipient, name of sender, email address, date, and subject) to that found on the envelope, header, salutation and content of a letter. According to the National Literacy Secretariat of Human Resources Development Canada (1999), a letter has many advantages compared with other forms of communication. For example a letter is a permanent record of evidence, compared with other communication methods people also can have a longer time to compose a letter, proofread it until it is clear and correct it, and a letter is a physical form which can be filed in a folder and easily referred to many times if necessary. These advantages can apply to email, it has similar characteristics. Altman (1982) cited by Milne (2010) states that an email is like a letter in so far as it is a communication technology between bodies that are absent from each other. In some senses email replaces paper mail (Milne, 2010); but email can also be defined as a system that enables users to compose, transfer, receive and manage electronic messages and images across networks and through gateways connecting to other local area networks (National of Archives Malaysia, 2011).

2.2. Email management

Email is the main correspondence tool for communicating within an organisation, between businesses and with members of the public and, for any organisation, a failure to manage emails implies a failing in records management generally (The National Archives, 2012). In the context of record keeping there is a need for users to recognise emails as records that need to be captured and managed like all other types of record. This is because email can be used as evidence of a transaction. The large numbers of email received into a

mailbox affect the process of responding, and this is one reason email needs to be managed. Faribozi and Zahidefard (2012) stated the process of distinguishing between emails in a mailbox can only be completed by reading them thoroughly. The types and classes of email records also can be identified during the process.

Four tactics are available to records professionals to ensure that an email record is created and preserved in a way that meets the functional requirements for record keeping, viz. policy, design, implementation and standards (Bearman, n.d cited by Bailey, 2012). Email management is also about training staff to handle the activities related with email (Pignita, Lushington, Sloan & Buchanan, 2015). However, current email management needs to be improved (Pignita, Lushington, Sloan & Buchanan, 2015). According to McMurtry (2014), email management techniques can be categorized into three types: employees' strategies, employers' strategies and inbox improvement strategies. These three strategies are essential to ensure the email management in the context of records management can be achieved.

The implementation of email management needs to be documented in guidelines and policies. Records management and information technology experts need to integrate their expertise and skills in order to design email policies and guidelines (Bailey, 2012).

3. CASE STUDY

3.1 Context

The goal of Vision 2020 is for Malaysia to become a developed country by the year 2020. It should be a united nation, with a confident society, infused by strong moral and ethical values; a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient (Mohamad, 1991). However, Vision 2020 is not limited to the economic sphere; it covers all aspects of life - economic, political, social, spiritual, psychological and cultural. The transformation of records in Malaysia from paper based records to electronic records stems from the establishment of the MSC, which was the first step towards electronic government in 1996 (Johare, 2001). The idea behind the MSC derives from Former Prime Minister of Malaysia Tun Dr. Mahathir Mohammad's speech launching Vision 2020. The MSC was an initiative that was intended to support the development of information and communication technology (ICT) in Malaysia by the government (Hamsha, 2012).

Communication technology is an essential component in any e-government initiative. It offers advantages for public administration and the citizens of Malaysia; for example, by improving efficiency, increasing the level of knowledge sharing among stakeholders through the use of supporting technologies, and reducing government expenditure (Othman, 2006). E-government is seen to be a cost-effective solution to improve communication between government agencies and their constituents by providing access to information and services online (Chen, Chen, Huang, and Ching, 2006). Lowry (2012) states the strategy of e-government reflects confidence in the government's ability to advance corporate administration by promoting data sharing.

By 2007, the government committee for Internet and Information Communication and Technology (Jawatankuasa IT Dan Internet Kerajaan - JTICT) chaired by Malaysia's Head of Secretary, announced the idea of developing e-filing. By 2011 the JTICT had decided to develop a Digital Document Management System (DDMS) to assist e-filing and progress towards paperless government, and to implement it by 2014. It has been piloted by the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) and disseminated in stages to government departments.

With the introduction of e-Government, information relating to the development of policies for the management of email correspondence that has been created as an outcome of the work process, has been distributed electronically in the web environment (National Archives of Malaysia, 2010).

3.2. Records Management in Malaysia

The history of record keeping and archives in Malaysia began on 1st December 1957, four months after Malaysia gained its independence, when the Public Records Office was established and Tuan Haji Mubin Sheppard was selected as the Keeper of Public Records. By 1963 it had been renamed the Department of National Archives or National Archives of Malaysia (NAM) (National Archives of Malaysia, 2015). The existence of this department demonstrates an awareness of record keeping. In the National Archive Act 2003 (Act 629) email was formally recognised and accepted as a record, together with any attachments.

The chronology of records format transition in Malaysia is similar to the transition from letter to email. Before the implementation of the DDMS, the government of Malaysia used a manual paper-based record keeping system where any electronic records needed to be printed and filed just as before. Following the introduction of the DDMS, the records management system in the Government of Malaysia is a hybrid one; comprising electronic and physical records and stored in both formats (Howard, 2002). In line with the National Blue Ocean Strategy (NBOS), MAMPU spearheaded the development of the DDMS together with the National Archives of Malaysia, which is experienced in records management. After the introduction of the DDMS in 2014, the system was expected to be extended to the whole public sector by 2020 to ensure government records are managed electronically in order to fulfil the objective of the transition to paperless government and meet statutory requirements (MAMPU, 2016b).

The DDMS uses a cloud based software-as-a-service delivery model, centrally hosted on a secure cloud platform, and only accessible through the 1GovNet network. 1GovNet is the Government Integrated Telecommunications Network which is managed centrally to support the delivery of public services and provide a platform to enable access to all electronic government applications, both internal applications and access to the Internet. 1GovNet is being provided to ministries, departments and agencies of the Federal Government and Federal Statutory Bodies (GITN, 2015).

The DDMS is intended to be used to store, locate and index all electronic and paper records (MAMPU, 2016b). It has been developed by a vendor, monitored by MAMPU. The functional requirements of the DDMS were drawn up by NAM from ISO 16175-2:2012, the international standard on principles and functional requirements for records in electronic office environments. The implementation of the DDMS throughout the federal government is based on a circular letter from Malaysia's Head of Secretary. Currently, the DDMS acts as an audit trail and a central repository for records whereby all records and documents are available to users and can be shared. Its implementation underlies this, as the objective is to identify best practices in managing email in the government sector. The DDMS is also protected by ICT security protocols (MAMPU, 2016b).

4. METHODOLOGY

A case study method was used to conduct an in-depth investigation of a contemporary phenomenon (the case) within its real world context (Yin, 2014). The selected government sector in Malaysia may be designated a single case study. In this study, the population consists of departments in the Ministry of Communications & Multimedia of Malaysia. The main objective of the ministry is planning, developing, implementing and monitoring the policies and regulations related to information technology security and integrity, communication and multimedia. These objectives are the main justification for selecting this ministry. The data was collected using interviews, observation and official documents. Ten interviews were conducted, from top to lower level management, in three selected departments; the interviewees were a record officer, three persons in charge (each representing their department) and six operational staff (two in each department). The key personnel interviewed from NAM were three heads of departments and in MAMPU two deputy heads of departments. The key personnel were selected because of their roles in managing government records and DDMS implementation.

The Records Continuum Concept was adopted in designing the research questions for data collection. The model consists of four dimensions (create, capture, organize and pluralize) and four axes (evidential, transactional, recordkeeping and identity) (Upward, 2000). This study focused on the first three dimensions because the researcher was interested in studying the processes relating to business transactions implemented in managing email in the context of record keeping. 77 questions were asked during data collection. The questions were aligned to the research objectives and can be categorized as concerning policy, record keeping systems and guidelines.

The method of constant comparison was used to analyse the study data. This method can be adopted for any qualitative data collection method - interviews, observations, printed sources and others (Glaser, 1965). Comparison is also the main principle of the process of analysis in other qualitative research traditions (Boeije, 2002). As explained by O'Connor, Netting, and Thomas (2008) constant comparison ensures that all data is analytically compared with all other data so that all data produced is analysed rather than potentially ignored on thematic grounds. In this study, the process was used to compare each data set taken from every interviewee taking into account their role, organisation, department and any selected guidelines provided. The purpose of the comparison is to explore the uniformity and differences between the data and responses

to the research questions.

5. RESULTS

Based on the constant comparative analysis, there were similarities and differences between respondents in managing the email records in the ministry. However, these analysis mostly derive from email creation and capture. Creation and capture are the preliminary processes in managing email records and covered by dimension one (create) and dimension two (identifiable/capture) of the records continuum concept; they assist in identifying email as records in the ministry. The main similarities are the respondents' reasons for creating email and selecting email rather than a letter as the medium to communicate in daily business activities or transactions. Individuals create email records as a means of notifying and informing others about issues i.e. using their own initiative. They are also created when subordinates receive instructions from superiors to take action. Such downward communication happens in the government workplace as a form of communication in performing tasks. Email is selected as a medium of communication instead of a letter because all the respondents believe it to be a more efficient, easy to compose (less formal procedure) and immediate. Based on the findings, email has been used in the government sector by via the email system which is linked to the DDMS. However, the email system also can be accessed by using a mobile application to increase efficiency. The research also found one of the factors of email use was that it has been accepted as a formal communication method in the government sector. Moreover, email is used to disseminate memos throughout the ministry or selected departments/division/unit.

Department 1	Department 2	Department 3
Use of the DDMS as an audit trail	Email can only be used as evidence if it has been printed as a paper record	Identified email as evidence if the email has the approval of the head of department or is Cc'd (copied to) to the head of department
DDMS fully implemented and used for capturing email records	DDMS partly implemented and used for capturing email records, even though email is not accepted as evidence unless it has been printed	DDMS not implemented

Table 1: The Implementation of DDMS by Department

Preliminary findings show that email in the government sector needs to be captured in the DDMS (DDMS User Manual, MAMPU,2015) and needs to be based on the Guidelines of Managing and Preserving Email for Public Sector by The National Archives of Malaysia (2010). However, in capturing email there were differences in practice among the respondents. Based on Table 1, in the context of the credibility of email as evidence, only Department 1 mentioned the use of the DDMS as an audit trail. Department 2 stated email can only be used as evidence if it has been printed as a paper record. Department 3 identified email as evidence if the email has the approval of the head of department or a Cc'd (copied to) to the head of department. Email management in the ministry can be classified under three categories: 1. DDMS fully implemented and used for capturing email records, 2.DDMS partly implemented and used for capturing email records, even email has not been accepted as evidence unless it has been printed and 3. DDMS not implemented. Department 1 has fully implemented and used for capturing email records. One of the reasons for this might be because the records management unit and information management unit are situated within this department. Department 2 has partly implemented and used the DDMS for capturing email records, even though it has not accepted email as evidence unless it has been printed; this is because the superior prefers to use paper-based records instead of electronic records and is reluctant to accept email as a record for business transactions. Department 3 has not implemented the DDMS. This is because most of the records held in this department are categorized as confidential and records captured in the DDMS are on open access.

This paper concentrates on the concept of emerging email management strategies. The data analysis found all three of McMurty's (2014) email management strategies as key to managing email and email systems in the government departments studied.

Employers or superiors are individuals that lead a business or specific task in the organisation (Archer et.al, 2014); and an employee is a person who is hired to offer services to an organisation on a regular basis in exchange for a salary and who does not offer these services as part of a self-governing business (Robert,2010). Both employers and employees have a strong commitment to ensure the organisation is managed and develops in the appropriate direction. In the study, a Person in Charge (PIC) (giving instruction and command to operational staff) is similar to an employer, and operational staff (receiving commands from the PIC) are similar to employees. The data shows that the first and second strategies for managing email are through the implementation of employers' and employees' strategies (McMurtry 2014).

Support for DDMS implementation can be found from the PICs within the three departments. The PICs in two departments supported its implementation. PIC1D1 fully used the DDMS in managing email records, whereas, although PIC2D2 encourages the staff in the department to use it, PIC2D2 was not using it themself. According to Collection (2009), the main challenge in change management, such as the introduction of the DDMS, is cultural and an organization needs to identify the types of change they want to achieve before making the changes to techniques, procedures and how organisation it implements the change. The perception of employees preferring their comfort zone, and both management and employees being afraid to change, are significant factors. Based on the data, PIC3D3 was reluctant to support the DDMS as PIC3D3 preferred to use conventional paper records rather than electronic ones. PIC3D3 found it convenient to view records on paper instead of electronically.

Compliance can be defined as 'being in agreement with a regulation and the execution of a proper organisational structure' (Pupke, 2008). Compliance with email record keeping can be achieved in several ways, for example awareness, accountability, competency and monitoring. Awareness of the advantages of email record keeping, based upon the policies and guidelines from the National Archives of Malaysia and MAMPU, have to be imparted by the employer to the employees. To improve the compliance with managing email as a record, the skills of employees need to be assessed and training provided to address any weaknesses. This can be implemented by reviewing the process of email creation and capture, which can be observed through the way in which processes are executed. Such reviews must be in line with existing guidelines (the DDMS Manual) given by MAMPU and the Record Officer at the selected ministry. Compliance with email record keeping in the government sector is reliant on the involvement and responsibility of many organisations and individuals such as MAMPU, NAM, employers and employees in the government agencies. The compliance system can be effective when the whole public service is willing to accept the changes made. It is related to an attitude of openness.

The attitude of openness affects change management in any organisation. According to Covin (1990) openness is conceptualized as support for change, has a positive effect on the potential outcomes of the change and is viewed as an essential starting condition for any change. The issue of openness in change management can be related to the willingness of employees to share information. As stated by Waddell (1998), in implementing change management the mechanisms are two-way communication between leaders and employees, information sharing and consultation. In this study another strategy needs to be considered based on McMurtry (2014) – the email management strategy associated with inbox improvement strategies. However, based on this research the term 'inbox improvement strategies' should be replaced by the record keeping system within the DDMS. The system was created to assist government servants to manage electronic records, including email. It acts as a business system in the government ministries according to the functional requirements of ISO 16175-2 (2012). It has its strengths, but things can be improved; for example, PIC1D1 said the DDMS is unstable and fully dependent on MAMPU for maintenance. The ministry is only a user and MAMPU is responsible for system backup. This weakness could be addressed by handing over responsibility for maintenance to the government sector.

Change management referred to advanced approaches and immediate activities to deal with business operations (Jin-Hyuk Ahn, 2011). Advances in technology and behaviour in an organization are the key of improvement. One of the requirements in change management is to have an active leadership to introduce change effectively (Gil, 2003). However, information technology and engineering are other aspects of change management that can be considered as critical to tracking implementation in an organisation (Jin-Hyuk Ahn, 2011).Based on the findings of this study the acceptance of information technology and the behaviour of employers and employees have added yet another aspect to change management in the organisation. The implementation of the DDMS in the government sector has been continued since 2015 and has been accepted, because the PICs from two departments think it is a system that can assist in managing email records in the government sector. However, even though PIC2D2 agreed with the effectiveness of

DDMS in managing email records they are still practicing the conventional method of printing and filing email records and only look forward to fully adopting the DDMS in the future. Even though an application is designed to improve user and service performance, if the user does not see it as useful or convenient, they are unlikely to use it (Alavi and Henderson (1981) cited by Davis (1989)). However, the department where PIC2D2 is situated, the majority of records are high risk paper based records outside the scope of the DDMS. This affected PIC2D2's practice on DDMS.

Employers play an important role in supporting change management by providing policies and guidelines for managing email records by employees. Employees need to be notified about the exact policies and guidelines used to ensure they are aware which ones need to be referred. Moreover, both employers' and employees' support is needed to implement a new record keeping system, such as the DDMS, migrating from a paper based record keeping system. The Government created the DDMS to support e-Government; accountability from top to lower management across the public sector is needed to support the system in line with effective records management practices.

However, the DDMS helps users by improving their efficiency especially for record tracking. The function of the DDMS as a record keeping system is obvious since it fulfils one of the essential requirements in providing email as evidence of a transaction. It provides an audit trail for electronic records which users can refer to and check if a task has been completed or is still in progress. Based on the findings, the employers' and employees' strategies for managing email include compliance.

6. CONCLUSION

This study involved three main bodies in the Government of Malaysia including a record keeping advisor, a systems developer, both of whom are responsible for providing guidelines, and one ministry. The study found integration between the National Archives of Malaysia and MAMPU in developing the DDMS application at the design stage to provide a better hybrid record system, since the DDMS reflects the (classification/filing) structure currently used in the centralised paper registry system. It can therefore accommodate the legacy system processes. Both agencies used their specialist knowledge and expertise in designing the system to support the e-government objectives i.e. records management (NAM) and information and communication technology and information systems (MAMPU). Further analysis need to be done to seek the good practice of managing email in the context of record keeping in the government sector. The existing guidelines used will be reviewed and compared with the national benchmarking countries from a record keeping perspective.

REFERENCE LIST

- Archer, R., Borthwick, K., Travers, M., Ruschena, L. (2014). *WHS: A Management Guide (4 ed.)*. Cengage Learning Australia. pp. 30–31.
- Boeije, H. (2002). A Purposeful Approach to the Constant Comparative Method in the Analysis of Qualitative Interviews. *Quality and Quantity*, 36(4), 391-409.
- Carroll, L. (2015). Hillary Clinton's email: Did she follow all the rules? Retrieved from <http://www.politifact.com/truth-o-meter/article/2015/mar/12/hillary-clintons-email-did-she-follow-all-rules/>
- Chen, Y. N., Chen, H. M., Huang, W., & Ching, R. K. H. (2006). E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study. *Journal of Global Information Management*, 14(1), 23-46.
- Collection, A. D. (2009). *The Need for Change Management*. ASME Press.
- Covin, R. H. K. a. T. J. (1990). Participant Perception of Positive and Negative Influences of Large Scale Change. *Group & Organization Studies*, 15(2), 233-248.
- Davis, FD. (1989). Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3): 319-340.
- Fariborzi, E. & Zahedifard, M. (2012). E-mail Marketing: Advantages, Disadvantages and Improving Techniques., *International Journal of e-Education, e-Business, e-Management and e-Learning*, Vol. 2, No. 3, June 2012.

- GITN. (2015). 1GovNet:Connected government. Retrieved 14 September 2016, 2016, from <http://www.1govnet.gov.my/index.php?v=bq>
- Glaser, B. G. (1965). The Constant Comparative Method of Qualitative Analysis. *Social Problems Social Problems*, 12(4), 436-445.
- Hamsha, B. I. (2012). Evaluation of Multimedia Super Corridor (Msc Malaysia): Contribution in Malaysian Economy.
- Howard, S. (2002). Hybrid records management - a local government perspective. *Records Management Bulletin*, 110, 3-8.
- Jacqueline, P. (2011). 1Malaysia Email Account. *The Star*. Retrieved from <http://www.gov.my/yGov/BI/Information/SiteMap>
- Jin-Hyuk Ahn, S. T., and Subramaniam R., Aleesha H., Josiah J., Vivek Vi. (2011). *Change Management*. University of Washington: University of Washington.
- Johare, R. (2001). Electronic Records Management in Malaysia: The need for an organisational and legal framework. *Records Management Journal*, 11(2), 97-109.
- Kaur, R. (2006). *Malaysian e-Government Implementation Framework*. (Master), Universiti Kebangsaan Malaysia, Bangi, Selangor.
- Lowry, J. (2012). *Management And Preservation Of Digital Records In Tanzania* (pp. 15). London: IRMT.
- MAMPU. (2016b). Digital Document Management System (DDMS). Retrieved September 30, 2016, from <http://www.mampu.gov.my/en/digital-document-management-system-ddms>
- MAMPU. (2015). *DDMS User Manual*. Putrajaya: MAMPU
- McMurtry, K. (2014). Managing Email Overload in the Workplace. *Performance Environment*, 53, 31-37.
- Milne, E. (2010). *Letters, Postcards, Email : Technologies of Presence*. New York: Taylor & Francis.
- Mohamad, M. (1991). *Malaysian : The Way Forward (Vision2020)*. Kuala Lumpur: Prime Minister Department Retrieved from <http://www.epu.jpm.my/>.
- Moss, M. (2012). *Digital Information Management*. London: Facet.
- National Archives of Malaysia. (2015). *History National Archive of Malaysia*. Retrieved November 12, 2015, from National Archive of Malaysia: <http://www.arkib.gov.my/en/web/guest/sejarah>
- National Archives of Malaysia. (2011). *Electronic Records Management System: System Specifications for Public Offices*. Kuala Lumpur: National Archives of Malaysia.
- National Archives of Malaysia. (2010). *The Guidelines of Managing and Preserving Email for Public Sector*. Kuala Lumpur: National Archives of Malaysia
- National Literacy Secretariat of Human Resources Development Canada. (1999). *Support Materials and Exercises for Writing Letters*. Canada: Winter.
- Nikiforova, B., & Gregory, D. W. (2013). Globalisation of trust and internet confidence emails. *Journal of Financial Crime*, 20, 4, 393-405.
- O'Connor, M. K., Netting, F. E., & Thomas, M. L. (2008). Grounded Theory. *Qualitative Inquiry*, 14(1), 28-45. doi:doi:10.1177/1077800407308907
- Othman, M. A. R. (2006). *Implementation of Electronic Government in Malaysia: The status and potential for better service to the public* (Vol. 1, pp. 8). Putrajaya: MaCGDI.
- Partridge, C. (2008). The Technical Development of Internet Email. *IEEE Annals of the History of Computing*, 30(2), 3-29.
- Pignita, S., Lushington, K., Sloan, J., & Buchanan, F. (2015). Employees' Perceptions of Email Communication, Volume and Management Strategies in an Australian University. *Journal of Higher Education Policy and Management*, 37:2, 159-171.
- Pupke, D. (2008). *Compliance and Corporate Performance: The impact of compliance coordination on corporate performance*. Norderstedt: Books on Demand GmbH. (page, 13)

- Robert A. R. (2010). *Intro to Business*. Cengage Learning. p.74.
- The Briefing. (2015). *Updated: The Facts About Hillary Clinton's Emails*. Retrieved from <https://www.hillaryclinton.com/briefing/factsheets/2015/07/13/email-facts/>
- The National Archives (2012). *Managing Digital Records Without An Electronic Record Management System*. United Kingdom: Crown.
- United States. (2011). *Guidance Concerning the Use of E-mail Archiving Applications to Store E-mail*. Washington, D.C.: National Archives and Records Administration. Retrieved from www.archives.gov/records-mgmt/bulletins/2010/2011-03.html
- Upward, F. (December 01, 2000). Modelling the Continuum as Paradigm Shift in Recordkeeping And Archiving Processes, And Beyond – A Personal Reflection. *Records Management Journal*, 10, 3, 115-139.
- Vasagar, J. (2011). Michael Gove Faces Questions Over Department's Use of Private Email. Retrieved from <https://www.theguardian.com/politics/2011/sep/20/michael-gove-department-private-email>
- Waddell, D. S., Amrik. (1998). *Resistance : A constructive tool for change*. Caulfield East, Vic.: Faculty of Business and Economics, Monash University.
- Yin, R. K. (2014). *Case Study Research: Design and methods*. Los Angeles: Sage
- Zurcher, A. (2016). Hillary Clinton emails - what's it all about?. *BBC News*. Retrieved from <http://www.bbc.co.uk/news/world-us-canada-31806907>